

BEREZHINSKIY, A. I.

"Boilers-Utilizers of Open-Hearth Furnaces." Sub 8 Jun 51, Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55.

RABINOVICH, I.M.; KIBAL'CHICH, P.N.; FADEYEVA, I.I.; IL'INSKAYA, T.N.;
KUZOVKOV, A.D.; BEREZHINSKAYA, V.V.; TRUTNEVA, Ye.A.; NIKITINA, S.S.

Plants of the Stephania genus as a source of new medicinal
preparations. Apt. delo 14 no.6:19-22 N-D '65.

(MIRA 18:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh
i aromaticeskikh rasteniy, Moskva. Submitted June 15, 1965.

SKORODUMOVA, I.V.; BEREZHINSKAYA, V.V.

Structural changes in the enterochromaffin system of the small intestine under the effect of rotundin. Biul.eksp.biol.i med. 58 no.7:113-115 J1 '64. (MIRA 18:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh i aromaticeskikh rasteniy (dir. P.T.Kondratenko) Ministerstva zdravookhraneniya SSSR, Moskva. Submitted March 29, 1963.

BEREZHINSKAYA, V.V.; NIKITINA, S.S.

Anti-inflammatory effect of tetrandrin and some aspects of its
mechanism of action. Farm. i toks. 28 no.1:77-81 Ja-F '65.
(MIRA 18:12)

1. Laboratoriya narodnoy meditsiny (zav. - kand.med.rauk
V.V.Berezhinskaya) Vsesoyuznogo nauchno-issledovatel'skogo
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Submitted August 2, 1963.

BEREZHINSKAYA, V.V.; TRUTNEVA, Ye.A.

Pharmacology of alkaloids of the furoquinoline series. Farm. 1
toks. 26 no.6:707-71. N-D '63 (MIRA 18:2)

1. Laboratoriya narodnoy meditsiny (zav. V.V. Berezhinskaya)
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i aromaticeskikh rasteniy.

ALESHKINA, Ya.A.; BEREZHINSKAYA, V.V.

Pharmacology of the glycosides of Thevetia peruviana. Farm.
i toks. 25 no.6:720-725 N-D '62. (MIRA 17:8)

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V.V. Berezhinskaya) Vsesoyuznogo nauchno-issledovatel'skogo
instituta lekarstvennykh i aromaticeskikh rasteniy.

BEREZHINSKAYA, V.V.

Cardiac glycosides. Med. prom. 16 no.2:3-8 F '62. (MIRA 15:3)

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i aromaticeskikh rasteniy.

(CARDIAC GLYCOSIDES)

TRUTNEVA, Ya.A.; BEREZHINSKAYA, V.V.

Pharmacology of alkaloids from the lupinane group. Farm. i toks.
23 no. 5:445-449 S-0 '60. (MIRA 13:12)

1. Otdel farmakologii (zav. - prof. A.D. Turova) Vsesoyuznogo
nauchno-issledovatel'skogo instituta lekarstvennykh i
aromaticheskikh rasteniy.
(NORLUAINANE)

IGNATOV, Sergey Illarionovich; MAYMIND, S.I., red.; BEREZHINSKAYA, V.V.,
red.; GABERLAND, M.I., tekhn.red.

[Pharmacotherapy; manual for pediatricians] Farmakoterapiia;
rukovodstvo dlia vrachei-pediatrov. Izd.3., ispr. i dop. Moskva,
Gos.izd-vo med.lit-ry, 1960. 255 p.

(MIRA 13:11)
(MEDICINE---FORMULAE, RECEIPTS, PRESCRIPTIONS) (PEDIATRICS)

BEREZHINSKAYA, V.V.; TRUTNEVA, Ye.A.

Pharmacology of evoxin. Farm. i toks. 22 no.2:117-122
Mr-Apr '59. (MIRA 12:6)

1. Otdel farmakologii (zav. - prof. A.D.Turova) Vsesoyuznogo
nauchno-issledovatel'skogo instituta lekarstvennykh i aromati-
cheskikh rasteniy.

(ALKALOIDS,
evoxin (Rus))

ALESHKINA, Ya.A.; BEREZHINSKAYA, V.V.; VOLYNSKAYA, M.B.

Sirup of aloe with iron in the treatment of anemia. Med. prom. 13
no,8:62-63 Ag '59. (MIRA 13:8)

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i aromaticeskikh rasteniy.
(ALOE) (ANEMIA)

AKSEL'ROD, D.M., BEREZHINSKAYA, V.V.

Culture of Arnica and its importance in medical practice.

Med. prom. 12 no.12:19-23 D '58

(MIRA 11:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh
i aromaticeskikh rasteniy.
(ARNICA)

ALESHKINA, Ya.A., BEREZHINSKAYA, V.V., VOLYNSKAYA, M.B.

Preparations from restharrow (*Ononis arvensis*). Med.prom. 12
no.10:50-51 0 '58 (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh
i aromaticeskikh rasteniy.
(RESTHARROW)
(GLYCOSIDES)

USSR/Pharmacology. Toxicology. Cardiovascular Drugs

V

Abs Jour : Ref Zhur - Biol., No II, 1958, No 51994

Author : ~~Berezinskaya~~, V.V., Loshkarev P.M., Turova A.D.
Inst : Medical Industry of USSR
Title : The Cardiac Drug Erysimine

Orig Pub : Med. prom-st SSSR, 1957, No 9, 32-36

Abstract : Erysimine is close to strophanthine by its general mode of action upon the heart, by its speed of action, the absence of cumulative effects and electrocardiographic changes, but its action is milder, and of less intensity. The dose is established individually, taking into consideration the general condition of the patient and his cardiac status.

Card : 1/1

EXCERPTA MEDICA Sec 6 Vol 13/10 Internal Med Oct 59

5649. THE CARDIAC PREPARATION ERYSIMIN (Russian text) - Berezhinskaya V.V., Loshkarev P.M. and Turova A.D. - MED. PROMYSH. SSSR 1957, 6 (32-36)

A review. The properties of the cardiac glycoside erysimin, isolated from *Erysimum canescens*, are described. It is soluble in water and alcohol. M.p. is 168-172°. One g. of it possesses an activity of 62,000 FUA (frog units of activity). The lethal dose for cats is 0.09 mg./kg. There is no cumulative effect. The drug is close to strophanthin in character of action.

(S)

ILLEGIBLE

USSR/Pharmacology. Pharmacognosy. Toxicology - Medicinal Plants. T-5

Abs Jour : Referat Zhur - Biologiya, No 16, 1957, 71727

The effect of I on the vegetative nervous system was studied on cats under urethane anaesthesia. It was found that I injected intravenously in 0.3-5 mg/kg doses reduces the BP upon the electrical irritation of the neck stem of the vagus nerve and the introduction of acetylcholine. Atropinisation and severance of the vagus nerve on the neck reduces the BP reaction toward I. It was found that I in 0.3-1 mg/kg doses decreases, and in 2-3 mg/kg doses completely abolishes the reaction produced by the administration of cytisine. It was noted that I counteracts the spasm of an isolated piece of intestine, produced by acetylcholine and Barium Chloride and causes contraction in an isolated horn of the uterus of a guinea pig. (The concentrations not given. Editor).

BEREZHINSKAYA, V. V.

USSR/Pharmacology. Pharmacognosy. Toxicology - Medicinal Plants. T-5

Abs Jour : Referat Zhur - Biologiya, No 16, 1957, 71727

Author : Berezhinskaya, V.V., Nikolskaya, B.S.

Inst :

Title : On the Pharmacology of Menispermum Dahurocum Alkaloid.

Orig Pub : Farmakol. i toksikologiya, 1956, (1957), Adden, Sb. Ref, 13-14

Abstract : The study of Sinomenine (I; alkaloid from the Menispermum dahuricum grass) established DL_{50} I for mice 131 mg/kg, and the minimal lethal dose of I for cats 75 mg/kg. Intravenous administration of I in 0.3-3 mg/kg doses into cats under urethane anaesthesia produced lowering of blood pressure (BP) by 20-90 mm Hg in the course of 45-60 minutes. In acute tests with rabbits where doses of 20-40 mg/kg of I were used, the BP also dropped. I in a solution of 10^{-5} - 10^{-4} showed a positive inotropic effect on an isolated frog heart. The

Card 1/2

- 47 -

BIEREZHINSKAYA, V. V.

Dissertation: "The Comparative Pharmacological Characteristics of Cardiac Glycosides of Soviet Manufacture." Cand Med Sci, First Moscow Order of Lenin Medical Inst, 13 Sep 54. (Vechernyaya Moskva, Moscow, 5 Aug 54)

SO: SUM 393, 28 Feb 1955

BEREZHINSKAYA, V.V.; ZEMLINSKIY, S.Ye.; KUSHKE, E.E.; MURAV'YEVA, V.I.
SATSYPEROV, F.A. [deceased]; ITSKOV, N.Ya., kandidat sel'skokho-
zyayst. nauk, redaktor; TUROVA, A.D., doktor meditsinskih nauk,
redaktor; ZHUKOV, G.I., redaktor; BEL'CHIKOVA, Yu.S., tekhnii-
cheskiy redaktor.

[Belladonna] Belladonna. Pod.red. N.IA. Itakova i A.D. Turovoi.
Moskva, Medgiz, 1953. 115 p. (MLRA 7:8)
(Belladonna)

TUROVA, A.D.; BREZHINSKAYA, V.V.; LESKOV, A.I.

Effect of *Berberis amurensis* on the uterus. Akush.i gin. no.2:50-51 Mr-
Ap '53. (MLRA 6:5)

1. Otdel farmakologii Vsesoyuznogo nauchno-issledovatel'skogo instituta
lekarstvennykh i aromaticeskikh rasteniy. (Uterus) (Botany, Medical)

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DEPENDENCE OF THE ATMOSPHERIC STABILITY OF PAINTS ON THE LYOSORPTION OF THE PIGMENTS FROM WHICH THEY ARE MADE. Ya. M. Gurevich and M. T. Berezhinskaya. *Izv. Akad. Nauk SSSR Khim. Prikl.* 1960, No. 6, 12-15. In a previous article (C. A. 54, 2074) the authors established that some powders show a greater absorptive capacity for liquids with decrease in particle size of the powder, while other powders exhibit the opposite phenomenon. The simplest and the most probable explanation of this phenomenon is that various powders possess different abilities to hold on their surface liquid envelopes of greater or lesser thickness. This property of powders the authors call "lyosorption." It was the authors' contention that pigment and fillers possessed of greater lyosorption would exhibit greater atm. stability. They investigated TiO_2 , white lead, heavy spar, chalk and talc. It was established that white lead and talc have high lyosorption, while TiO_2 , heavy spar and chalk have low lyosorption. Stable suspensions of all these pigments were obtained in mixts. of linseed oil mixed with polymerized oil. The authors' hypothesis proved to be true for the pigments tested.

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ASM-A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
BIBLIOGRAPHIC INDEX										PROCESS AND PROPERTIES INDEX									
<p><i>Berezinskaya M.T.</i></p> <p>Effect of the granulometric composition of powders on their liquid-binding capacity. I. Ya. M. Gurevich and M. T. Berezinskaya. <i>Colloid J.</i> (U. S. S. R.) 5, 807-16 (1963).—Powders of ultramarine (I), chromic oxide (II) and an iron oxide contg. red lead (III) were sepd. in fractions having diams., d, between 20 and 10, 10 and 5, 5 and 2, and 2 and 1 μ. The sedimentation vol. of I and II in water and linseed oil increases with d, and that of III in H_2O and linseed oil and of I, II and III in xylene diminishes when d rises. The amt. of water, linseed oil or xylene necessary to produce a paste rises with d for I and II and falls for III. The viscosity of pastes of I and II in linseed oil increases, and that of III in linseed oil and of I, II and III in mineral oil decreases, with rising d. The systems giving unstable suspensions show a liquid-binding capacity which increases with dispersity, and other systems show an opposite behavior. II. <i>Ibid.</i> 823-9.—Mixts. in various proportions of large and small particles of I, II and III were prepd. Their capacity to bind linseed oil was additive for III and nonadditive for I and II.</p> <p>J. J. Bikerman</p>										<p>2</p>									
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<p>1 Mono- and poly-dispersed pigments. Ya. M. Gurevich and M. T. Berezinskaya. <i>Russk. Obshch. Opyt. Laboratorii</i> 1939, No. 4, 13-14. — The dependence of properties of pigments on the degree of dispersion and homogeneity of their particle size was studied. Cr_2O_3, ultramarine and red iron oxide were fractionated into fractions of narrow particle-size ranges. The following properties of monodispersed fractions were detd.: (a) specific volumes of ppts., freely settling from dild. stable and coagulated suspensions; (b) min. quantities of various liquids necessary to convert a powder into a paste; (c) viscosities of pastes of paint consistency; (d) colors. In polydispersed mixts. only viscosities and min. quantities of liquids to form pastes were detd. Whether mono- or poly-dispersed red iron oxide increases oil take-up with decrease in particle size, the reverse is true of ultramarine and Cr_2O_3. Oil take-up in polydispersed mixts. is additive for red iron oxide and is not additive for ultramarine and Cr_2O_3. The greater the dispersion the greater is the coeff. of refraction and brilliance of the color. David Aclony</p>																																																			
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BEREZHINSKIY, A. I.

137-1957-12-23255

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 57 (USSR)

AUTHOR: Berezhinskiy, A. I.

TITLE: The Construction, Starting Procedure, and Operational Characteristics of the KU-50 Recovery Boiler (*Konstruktsiya opyt pusk i ekspluatatsionnyye kharakteristiki kotla-utilizatora KU-50*)

PERIODICAL: V sb.: Kotly-utilizatory martenovsk. pechey. Moscow, Metallurgizdat, 1957, pp 151-165

ABSTRACT: The KU-50 recovery boiler developed by Gipromez is designed to handle 50,000 nm³/hr of flue gases at a temperature of 600°. The nominal steam generation capacity of the boiler is 6 t/hr; the steam pressure is 17 atm (gauge) (Translator's Note - gauge pressure above free-air atmospheric pressure), the temperature of the superheated steam is 375°. The heating surfaces of the boiler have the following areas (in m²): steam superheater 62, evaporating coils 511, water economizer 155. The heating surfaces of the boiler are housed in the horizontal gas flue. The evaporating surface consists of 72 coils grouped in four parcels and the water economizer is composed of 7 coils grouped in parcels. The cleaning of the heating surfaces of the boiler is accomplished by washing every two days.

Card 1/1

Ye. N.

1. Boilers-Operation 2. Boilers-Characteristics

BEREZHIN, P. N.

FA 43/49T31

USSR/Engineering
Welding
Training

Apr 49

"First Graduation of Welding Engineers From the Chelyabinsk Mechanics and Machine Building Institute," P. N. Berezhin, 1 p

"Avtogennoye Delo" No 4

In Dec 48, Chelyabinsk Mech and Mach-Bldg Inst graduated the first group of 18 mechanical engineers specializing in equipment and technology of welding production. All have been sent to factories in the Urals, the Volga provinces, Siberia, and the Far East.

43/49T31

L 04677-57

ACC NR: AR6020938

was done in a crucible of a LGP-30 furnace at temperatures to 2000°C and pressures of 0-4 atm. Depending on the value of temperature, [N] rose and even at 1450°C it built up to 4%, while at 1500°C it reached 8%. With a further increase, [N] dropped. The flow rate of N₂ was 75-120 l/hr. The duration of nitriding was 5 hr at 1450 ± 50°C. The assimilation coefficient was 69-81%. Upon obtaining the nitride addition with 4.1% N, a melt of Fe-Cr with 2.1-2.4% N was made. A stainless steel with 0.31-0.35% N was melted using the Cr-Mn-N addition with 7.9% N. The assimilation coefficient of N was 0.8-0.9 independent of the composition of the product and [N] in the addition. A. Sergeyev.

SUB CODE: 11, 13

Card 2/2

fv

I. CL-677-67

FWE(ED/T/EWPCO)/111

ADP(2)

JDAG

ACC NR: AR6020938

SOURCE CODE: UR/0137/66/000/002/V031/V031

AUTHOR: Bereziani, V. M.; Mirianashvili, B. M.

TITLE: A study of processes for the production of highly nitrided chromalloy additions

SOURCE: Ref. zh. Metallurg, Abs. 2V206

REF SOURCE: Tr. Gruz. in-t metallurgii, v. 14, 1965, 149-156

TOPIC TAGS: chromium alloy, nitride, high frequency furnace

TRANSLATION: Various nitriding techniques were studied at the Institute with the aim of developing methods for obtaining highly nitrided Cr and of determining its basic physicochemical properties. Electrolytic Cr (99.5% Cr) from the Zestafonsky plant was used in plate form 5-50 mm wide and 1-3 mm thick and in powder with NH_3 and N_2 . The O_2 , H_2 and N contents of the electrolytic Cr extended to 0.50, among them O_2 0.4%. Nitriding of Cr by ammonia was done in the solid state at temperatures of 800-900°C. The [N] content in the product was 0.01-0.25% depending on the temperature in a given range. Nitriding with N_2 was done in a crucible of a special high frequency furnace at temperatures of 1000-1450°C. The oxide layer on the Cr surface was pronounced and found to have a negative effect on the degree of nitriding. Metal with 5% N was obtained. To prevent loss of powdered alloy in the melting of steel, further nitriding

Card 1/2

UDC: 669.168.001

L 42961-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD/WW/JG
 ACC NR: AR6024986 SOURCE CODE: UR/0081/66/000/007/E098/E088
 AUTHOR: Berezhiani, V. M.; Mirianashvili, B. M. 53
 TITLE: Solubility of nitrogen in liquid and solid chromium at an elevated pressure of the gaseous phase B
 SOURCE: Ref. zh. Khimiya, Part I, Abs. 7B647
 REF SOURCE: Tr. Gruz. in-t metallurgii, v. 14, 1965, 163-166
 TOPIC TAGS: nitrogen, chromium, nitridation, liquid metal
 ABSTRACT: The solubility limits of N_2 were determined in liquid and solid Cr at pressures up to 10 atm, and the kinetics of nitridation were studied. At a high N_2 pressure and a constant temperature, the solubility of N_2 in solid Cr increases, and in solutions a chemical compound is formed which dissolves in the metal. In the liquid, CrN_2 also forms a chemical compound on dissolution. D. Kashayeva. [Translation of abstract]
 SUB CODE: 11

ACCESSION NR: AR4027923

[% N] for the melts studied is as follows: for liquid Cr, 2920/T-0.755; for Cr with 6.1% Mn, 3120/T-0.804; for Cr with 23.2% Mn, 3800/T-1.278; for Cr with 0.16% C, 2620/T-0.662, and for Cr with 1.5% C, 4180/T-0.440. Activity coefficients of N in liquid Cr and its melts with Mn and C, $\log f_N = \log [\% N] \text{ Cr} - \log [\% N] \text{ Cr-Mn(C)}$ were calculated, and are expressed by the following equations: for melts with 6.1% Mn, -200/T-0.129, with 23.2% Mn, -800/T-0.523, with 0.16% C, -300/K-0.093, and with 1.50% C, -1260/K-0.315. P. Arsent'yev

DATE ACQ: 19Mar64

SUB CODE: CH, ML

ENCL: 00

Card 2/2

ACCESSION NR: AR4027923

S/0137/64/000/002/A004/A004

SOURCE: RZh. Metallurgiya, Abs. 2A16

AUTHOR: Mirianashvili, B. M.; Berezhiani, V. M.

TITLE: Solubility of nitrogen in melts of chromium and manganese and chromium and carbon

CITED SOURCE: Tr. In-ta metallurgii. AN GruzSSR, v. 13, 1962(1963), 271-273

TOPIC TAGS: nitrogen solubility, chromium, manganese, carbon, nitrogen activity coefficient

TRANSLATION: Cr-C and Cr-Mn melts were prepared from pure electrolytic Cr, Mn, and c. p. C in an atmosphere of H₂. It was found that the solubility (S) of N in Cr-C melts drops sharply with rising temperature. When [C] increases (to 1.5%), the S of N decreases. The influence of temperature on the S of N in Cr-Mn melts is less than in Cr-C melts. A change in [Mn] from 3.0 to 35.6% in Cr-Mn melts had relatively little effect on the S of N. Whereas at [Mn] = 3% the S of N was 5.75% at 1700°, at [Mn] = 35.6% it was 3.96%. The thermodynamic functions of the reaction of Cr, Cr-C, and Cr-Mn melts with N were determined. The temperature dependence of log

Card 1/2

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204800025-6

ACCESSION NR: AP4018303

DATE: 1974 05 14

SUB CODE: IC, MM

ENCL: 00

Card 2/2

ACCESSION NR: AP4018303

S/0137/64/000/001/A006/A006

SOURCE: RZh. Metallurgiya, Abs. 1A27

AUTHOR: Mirianashvili, B. M.; Bereshiani, V. M.

TITLE: Solubility of nitrogen in liquid chromium and melts of chromium and silicon

CITED SOURCE: Tr. In-ta metallurgii. AN GruzSSR, v. 13, 1962(1963), 265-270

TOPIC TAGS: nitrogen, chromium, silicon, chromium alloy, silicon alloy

TRANSLATION: The solubility of N in Cr and Cr-Si melts was determined by the dynamic equilibrium method. A mixture of purified N_2 (600-650 ml/min) and H_2 (40-60 ml/min) was passed over a melt weighing 50 g after the latter had been kept in a stream of H_2 . Equilibrium was reached after an exposure of 2-3 hr. Electrolytic Cr and crystalline Si were used to prepare the alloys. The solubility of N in liquid Cr, both during nitriding and denitriding with a rise in temperature from 1730 to 1900° drops from 5.42 to 3.95%. It becomes 4.0% around the melting point. For liquid Cr log 1; for the melt of Cr with 0.90% Si log 2, and for the melt of Cr with 4.5% Si log 3. P. Arsent'yev.

Card 1/2

ACCESSION NR: AR4018279

solutions of H_2SO_4 and HCL. Cr up to 20% does not affect the K. Mo (0--6%) raises it in HCL and H_2SO_4 solutions, but introduction of Mo above 3% impairs the workability of the steels.

DATE ACQ: 07Feb64

SUB CODE: ML

ENCL: 00

Card 2/2

ACCESSION NR: AR4018279

S/0277/64/000/001/0013/0013

SOURCE: RZh. Mashinostroitel'nyye materialy*, konstruksii i raschet detaley mashin. Gidroprivod (Hydrodrive), Abs. 1.48.72

AUTHOR: Berezhiani, V. M.

TITLE: Study of the effect of certain alloying elements on the corrosion resistance of high-manganese stainless steel

CITED SOURCE: Tr. In-ta metallurgii. AN GruzSSR, v. 13, 1962(1963), 105-116

TOPIC TAGS: corrosion resistance, high-manganese stainless steel, added alloy, carbon, titanium, copper, nitrogen, silicon, aluminum, nickel, chromium, molybdenum

TRANSLATION: The paper studies the effect of additional alloying (with C, Ti, Cu, N₂, Si, Al, Ni, Cr, Mo) on the resistance to corrosion (K) of the chromium-manganese-nitrogen steel AN3-1 in various media, and points out that C (0.1--0.5%), N (up to 0.62%) and Cu (1--4%) do not affect the K of the steel in all the media studied. Ti (0--6%) impairs the K in 5% solutions of H₂SO₄ and HCl. Si (0.5--4.34%) and Al (0--1.2%) lower the K in 5% solutions of H₂SO₄ and HCl and do not affect it in water or a 5% HNO₃ solution. Ni (1.0--6.7%) raises the K in 5%

Card 1/2

BEREZHIANI, V.M.; SIORIDZE, G.Ya.; KARATASHVILI, I.B.; KVEPENADZE, Sh.M.

Results of industrial experiments for the production of nitrided manganese.
Trudy Inst met. AN Gruz. SSR 13:169-179 '62. (MIRA 17:9)

BEREZHIANI, V.M.; BARATASHVILI, I.B.

Effect of the vapor phase pressure on the manganese nitriding
process. Trudy Inst.Met. AN Gruz. SSR 12:93-101 '62.

(MIRA 15:12)

(Case hardening) (Vapor pressure) (Manganese)

BEREZHIANI, V.M.; (RIKUROV, G.N.

Investigating the corrosion resistance of iron-manganese-chromium
alloys. Trudy Inst.met. AN Gruz. SSR 12:72-92 '62. (MIRA 15:12)
(Iron-manganese-chromium alloys--Corrosion)

BEREZHIANI, V.M.; YAKOBASHVILI, S.B.

Investigating the heat-resistance of iron-manganese-chromium
alloys. Trudy Inst.met. AN Gruz. SSR 12:63-72 '62. (MIRA 15:12)
(Iron-manganese-chromium alloys--Thermal properties)
(Heat-resistant alloys)

ACCESSION NR: AT3008986

content: In alloys containing $\leq 10\%$ Cr, an increase in Mn content increases the refractoriness only by a small amount; in alloys containing more than 10% Cr, an increased Mn content leads to a decrease in the refractoriness of the alloys.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 28Oct63

ENCL: 00

SUB CODE: MA, EL

NO REF SOV: 004

OTHER: 007

ACCESSION NR: AT3008986

S/2808/62/012/000/0071/0072

AUTHORS: Berezhiani, V.M.; Yakobashvili, S.B.

TITLE: Investigation of the refractoriness of iron alloys with manganese and chrome

SOURCE: AN GruzSSR. Institut metallurgii. Trudy*, v.12, 1962, 71-72

TOPIC TAGS: iron, manganese, chromium, iron alloy, iron alloy with manganese, iron alloy with chromium, iron alloy with manganese and chromium, Fe iron with Mn, Fe alloy with Cr, Fe alloy with Mn and Cr, refractoriness, heat resistance, high-temperature stability

ABSTRACT: The paper presents the results of an experimental investigation of the refractoriness of 75 alloys of Fe with Mn and Cr, containing from 0 to 30% of each of these elements with $C \leq 0.1\%$ and $Si \leq 0.4\%$. All investigations were performed in an atmosphere of air at $t = 800^\circ\text{C}$. It is established that the refractoriness of Fe alloys with Cr and Mn is fundamentally determined by the Cr content. Alloys containing from 0 to 10% Cr are not adequately stable; alloys from 10-15% Cr are characterized by a satisfactory stability; alloys containing $>15\%$ Cr are highly refractory. The effect of Mn on the refractoriness is also dependent on the Cr

Card 1/2

Investigation of the machinability of low-Carbon S/808/61/011/000/006/006

those steels characterized by a mean drillhole depth of 1 mm and total resistance to sawing and turning with a high-speed steel cutter; (2) "difficult-to-machine" are those steels characterized by a mean drillhole depth of from 2 to 5 mm and by substantial resistance to sawing and turning (standard: Steel 381T [EYalT]); (3) "readily machinable" are those steels characterized by a mean drillhole depth of 6 to 10 mm and ready sawability and turnability (standard: Steel 50); (4) "excellently machinable" are those steels characterized by a mean drillhole depth of more than 10 mm and easy sawability and turnability (standard: Calibrated steel 25). A total of 85 Mn, Cr-Mn, and Cr-Mn-N steels were tested. The results are tabulated and graphed. The overwhelming majority of the steels investigated of the 3 systems, containing from 0 to 30% Mn and Cr with 0.1% C, are characterized by good machinability, both in the cast and in the quenched state. In most of the steels investigated, a homogenization at 1,150°C and subsequent quench does not impair the machinability but, on the contrary, improves it appreciably. It is asserted that the opinion, widely prevailing throughout the literature, that low-C steels of the Fe-Mn-Cr and Fe-Mn-Cr-N systems are not readily machinable, requires correction and that the Fe-Mn, Fe-Mn-Cr, and Fe-Mn-Cr-N stainless nonmagnetic steels investigated are more readily machinable than standard Cr-Ni steels. There are 2 figures and 1 one-and-one-half-page table; no references.

Card 2/2

5/808/61/011/000/000/000

AUTHORS: Bergshian, V.M., Minayev, G.P.

TITLE: Investigation of the machinability of low-Carbon steels of the Fe-Mn, Fe-Mn-Cr, and Fe-Mn-Cr-N systems.

SOURCE: Akademiya nauk Gruzinskoy SSR. Institut metallurgii. Trudy, v.11, 1961, 203-207.

TEXT: The paper describes an experimental investigation comprising a study of the machinability of low-C ($C \leq 0.1\%$) Mn, Cr-Mn, and Cr-Mn-N steels in conjunction with a general effort to make and study high-Mn stainless steels. The machinability criteria were based on the standard methods set forth in All-Union Standard (GOST) 2625-44. The test specimens specified in the Standard are rolled rods not less than 60-mm diam for longitudinal machining and not less than 150-mm diam for transverse turning; inasmuch as only cast specimens of smaller diam were available, a slightly modified methodology was employed in which the machinability was determined by means of comprehensive data on longitudinal and transverse machining, the depth of drilling under a constant load, and various sawing methods. The basic criterion was the depth of a 2-mm diam hole drilled in 1 min. Following are the basic definitions of the 4 qualitative machinability groups: (1) "Nonmachinable" are

Card 1/2

Investigation of the magnetic properties of

S/808/61/011/000/005/006

Conclusions: (1) The Fe corner of the system Fe-Mn-Cr for C=0.1% contains a great number of nonmagnetic alloys which exhibit good machinability and which can be employed for the development of inexpensive Ni-free nonmagnetic steels. (2) The said nonmagnetic steels lie within the bounds of 15% each of Cr and Mn contents. The introduction of up to 0.4% N into a high-Cr steel does not exert any effect on its magnetic properties. It follows that the Ni-free austenitic stainless steels with 15% Cr, so widely advertised abroad, cannot possess an austenitic structure. (3) The results of the investigation confirm existing literature data on the structure of low-C Mn steels and show that there are broad possibilities for low-C Mn nonmagnetic steels and also nonmagnetic Mn steels containing small additions of Cr. There are 2 figures and 1 two-page table; no references.

Card 2/2

S/808/61/011/000/006/006

AUTHORS: Berezhtani, V.M., Grikurov, G.N.

TITLE: Investigation of the magnetic properties of low-Carbon steels of the types Fe-Mn, Fe-Mn-Cr, and Fe-Mn-Cr-N.

SOURCE: Akademiya nauk Gruzinskoy SSR. Institut Metallurgii. Trudy, v. 11, 1961, 199-202.

TEXT: The paper describes an experimental investigation intended to develop new types of inexpensive nonmagnetic steels through the employment of the austenitic structure of high-Mn iron alloys. More specifically, the new Ni-free stainless steels to be developed are selected in the iron corner of the Fe-Mn-Cr-C diagrams in which for C=1% good machinability properties prevail. Inasmuch as in such alloys there are both magnetic (α and δ ferrite) and nonmagnetic (γ solid solution, σ phase, et al.) components, a magnetic investigation can reveal the presence in such steels of magnetic components and thereby help in the establishment of a desired phase composition in a steel. The investigation comprised magnetic-balance measurements on specimens 6 mm thick, 16-mm diam. The specimens were tested in two states: (1) in the cast state, (2) in a quenched state after a 5-hr homogenization at $t=1,150^{\circ}\text{C}$ and subsequent quench in water. The results are tabulated and graphed.

Card 1/2

New high-Manganese Nitrogen-containing steels S/808/61/011/000/002/006

of the Gruzian Republic in the making of high-Mn alloys for stainless and nonmagnetic steels in the system Fe-Mn-Cr. The most serious problem encountered was the inadequate corrosion resistance of such steels, so long as the Cu, Mo, and Ni additions were small (1-2%). The Steel Laboratory of the Institute of Metallurgy has now developed a new type of austenitic Cr-Mn-N steel which contains less than 0.12% C, 12-14% Cr, 16-20% Mn, and 0.3-0.5% N, which has been designated as steel type AHFI (ANG1). The mechanical properties of this new steel are tabulated in comparison against 2 other stainless austenitic Ni steels. The excellent strength properties of the ANG1 steel can no doubt be further improved by work-hardening. The ANG1 steel exhibits good corrosion resistance also and is eminently suitable for machining by cutting. The present work constitutes merely a first step, and further avenues of development are briefly traced. There are 1 table and 15 references (6 Russian-language Soviet, 6 English-language, and 3 German-language).

Card 2/2

S/808/61/011/000/002/006

AUTHOR: Berezhiani, V.M.

TITLE: New high-Manganese Nitrogen-containing steels and their industrial potentialities.

SOURCE: Akademiya nauk Gruzinskoy SSR. Institut metallurgii. Trudy, v. 11, 1961, 77-81.

TEXT: This survey-type paper explores the possibilities of the industrial uses of high-Mn (1-2% Mn) steels which, with the exception of the Hatfield steel, have not found any general application to date. The prevailing reluctance against the use of Mn steels is attributed to the fear of an unfavorable effect of the Mn on the grain growth and the plastic properties of the ferrite. The objective of the present paper is to show that by a judicious introduction into a steel of suitable additions and a selection of suitable smelting and deoxidation methods the above-cited phenomena can be prevented. The value of such improvements in the production of stainless steel are clearly apparent. At present, Mn appears to be the fundamental substitute for Ni in Soviet stainless steels. The primary problem, in replacing Ni with Mn, is the necessity for providing an austenite stabilizer. Work begun in 1957 at the Institute of Metallurgy, AS GruzSSR, endeavored to utilize the rich Mn resources

Card 1/2

Experimental preparation of nitrided Manganese.

8/808/61/011/000/001/006

tested, and only a weak magnetism, indicating that the nitrided metal possesses a heterogeneous structure, was found. An investigation of the delivery of N introduced with the Mn during the smelting of Cr-Mn steel showed that the acceptance coefficient of the Mn-borne N in the steel is 0.75-0.85 and, hence, quite elevated. There are 3 figures, 6 tables, and 6 references (2 Russian-language Soviet, 3 English-language originals, of which 2 are in Russian translation, and one German-language).

(Card 3/3)

Experimental preparation of nitrided Manganese.

S/808/61/011/000/001/006

alloy in its solid state. The paper describes the test equipment which consists of a tubular furnace, a retort made of refractory steel placed within the furnace and equipped with in- and outlets for the N-containing gas, a gas-drier in the inlet line, a discharge meter, and a dissociation meter in the outlet line for the measurement of the degree of dissociation when ammonia is employed as a gas. The metal utilized was finely comminuted metallic Mn with a high degree of dispersivity, exhibiting a large specific surface which facilitated the nitriding process, but which caused considerable trouble subsequently, since the smelting of highly dispersed particulate matter results in ready oxidation and much carry-off in the slag and in the gases. The investigation, therefore, continued with the use of electrolytic Mn in the form of lamellae 1-2 mm thick and 5-20 and more mm diam. This material is highly porous and possesses a great specific surface and, yet, is eminently suitable for the preparation of high-grade alloys. The nitriding of the Mn by means of ammonia was performed at various temperatures; an optimal T was found within the 660-680°C range. The nitriding was continued for 1-10 hrs without attaining a maximum N content. At the present time the greatest N content in steels does not exceed 0.4-0.5%. To attain this value, the Mn needs but 6% N content, whereas the present tests went up to 10% N content. It would appear possible to attain the desired result within 3-4 hrs by a more intensive process achieved by the use of ammonia with a controlled degree of dissociation. The magnetic properties of the nitrided Mn were

Card 2/3

S/608/61/011/000/001/006

AUTHORS: Baratashvili, V. M., Baratashvili, I. B.

TITLE: Experimental preparation of nitrided Manganese.

SOURCE: Academiya nauk Gruzinskoy SSR. Institut metallurgii. Trudy, v. 18
1963, 69-76.

TEXT: The paper describes an experimental investigation, the prime objective of which is the introduction of N as a powerful stabilizer of austenite and as an antiprecipitant of phases that might impair the technological and operational properties of a steel. The more direct practical objective of the investigation was the preparation of a N-containing charge material for the making of stainless steel. The present investigation constitutes a continuation of work originally proposed by A. M. Samarin, corresponding member, AS USSR. The investigation was planned along two principal paths: (a) The preparation of nitrided Mn by the aluminothermic introduction into the charge of N-containing materials; (b) the preparation of nitrided Mn by means of the nitriding of the metal in the solid state. A preliminary investigation, which is described in detail, indicated that the aluminothermic method does not permit the preparation of an alloy with an adequately elevated N content, and the further investigation, therefore, was limited to the nitriding of the

Card 1/3

Solubility of nitrogen ...

S/020/61/140/002/022/023
B130/B110

Thus, at constant pressure and constant temperature under equilibrium conditions,

$$a_N^{Mn} = a_N^{Mn-Si(Fe)}, \quad f'_N [\%N]_{Mn} = f'_N [\%N]_{Mn-Si(Fe)} \quad (b).$$

The solubility of nitrogen in liquid Mn at $P_{N_2} = 1$ atm and $T = \text{const}$ is taken as standard. Then, $f'_N = 1$ and $f_N = \frac{[\%N]_{Mn}}{[\%N]_{Mn-Si(Fe)}} \quad (1)$. Si causes a stronger decrease of N solubility than Fe. Also an increase in the temperature of the melt reduces the N solubility (Fig. 4). $\log K$ and ΔF^0 were calculated from the experimental data given in Fig. 4. Calculation results are given in Table 1. There are 4 figures, 1 table, and 3 Soviet references.

ASSOCIATION: Institut Metallurgii im. A. A. Baykova Akademii nauk SSSR
(Institute of Metallurgy imeni A. A. Baykov of the Academy of Sciences USSR)

SUBMITTED: May 11, 1961

Card 2/6

S/020/61/140/002/022/023
B130/B110

AUTHORS: Baratashvili, I. B., Fedotov, V. P., Samarin, A. M., and
Bereziani, V. M., Corresponding Member AS USSR

TITLE: Solubility of nitrogen in manganese-iron and manganese-
silicon melts

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 2, 1961, 423-425 ✓

TEXT: The solubility of nitrogen and nitrogen-hydrogen mixtures in Mn-Fe and Mn-Si melts is calculated by the method of dynamic equilibrium between melt and gaseous phase. Apparatus and method were the same as indicated by A. M. Samarin, V. P. Fedotov (Tr. IV Konfer. po fiziko-khimicheskim osnovam proizvodstva stali, Izd. AN SSSR, 1960, p. 144). The Fe and Si content changed during melting by 2-3%. Results of determination of the solubility of nitrogen are given in Figs. 1 and 2. From the experimental data, the dependence of the coefficient of nitrogen activity in Mn-Fe and Mn-Si melts on the Fe and Si concentration in the melts is given:

$$a_N^{Mn} = f_N[\%N]_{Mn}, \quad a_N^{Mn-Si(Fe)} = f_N[\%N]_{Mn-Si(Fe)} \quad (a).$$

Card 1/0

2

Solubility of nitrogen in liquid ...

S/020/61/139/006/014/022
B103/B101

equilibrium with N_2 having a pressure of 1 atm. According to experimental data, the following relations are obtained for $P_{N_2} = 1$ atm and $f_N = 1$:

$$\log K = \log [\% N] = 3010/T - 1.457; \quad (2);$$

$$\Delta F^0 = -13,780 + 6.65 T \quad (3).$$

There are 2 figures and 6 references: 3 Soviet and 3 non-Soviet.

ASSOCIATION: Institut metallurgii im. A. A. Baykova Akademii nauk SSSR
(Institute of Metallurgy imeni A. A. Baykov, Academy of
Sciences USSR)

SUBMITTED: April 29, 1961

Card 3/3

Solubility of nitrogen in liquid ...

S/020/61/139/006/014/022
B103/B101

was heated with an JF-60 (LG-60) h-f tube generator. Mn melt was purified with purified hydrogen (400 ml/min) for 1 hr. Subsequently, it was cooled and again molten (Test series I and II). The melt was subjected to the action of N_2 or N_2+H_2 for 120 - 180 min at a given temperature and with a given consumption of H_2 and N_2 (40 and 1100 ml/min, respectively) (series I). In the second series, the treatment was performed within 30, 60, 90, and 120 min. In the third series, Mn with a nitrogen content of 3.3 and 6.0% was treated as stated above but without previous purification in H_2 .

The nitrogen content of Mn was chemically determined. It is noted that equilibrium at the same temperature is attained both by saturating the Mn melt with nitrogen and by denitrifying the nitrogen-containing Mn. Keeping the manganese in the gas current for 1 hr is sufficient for reaching equilibrium. The solubility of nitrogen decreases with increasing temperature. This function is given by $1/2 N_{2(g)} \rightleftharpoons [\% N]$, $K = a_N/P_{N_2}^{1/2}$

$= f_N[\% N] / P_{N_2}^{1/2}(1)$. As a standard state, an Mn melt is taken, which is in

Card 2/3

S/020/61/139/006/014/022
B103/B101

AUTHORS: Baratashvili, I. B., Fedotov, V. P., Samarin, A. M.,
Corresponding Member AS USSR, and Berezhiani, V. M.

TITLE: Solubility of nitrogen in liquid manganese

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 6, 1961, 1354-1355

TEXT: Since the data published on the solubility of nitrogen in liquid
manganese are contradictory, the authors studied this problem by the method
of dynamic equilibrium established between liquid manganese and nitrogen
or a nitrogen - hydrogen mixture. The activity of N_2 in the metal
corresponds to the partial pressure of N_2 in the gaseous phase at the
instant of equilibration. The nitrogen content corresponding to the
equilibrium was determined in a specimen of the solid, rapidly cooled
metal. Methods and apparatus were described by A. M. Samarin, V. P.
Fedotov (Tr. IV Konfer. po fiziko-khimicheskim osnovam proizvodstva
stali (Proceedings of the 4th Conference on the Physicochemical
Fundamentals of Steel Production) Izd. AN SSSR, 1960, p. 144). The metal

Card 1/3

An investigation into the kinetics ...
6 references.

S/137/62/000/003/157/191
A052/A101

A. Babayeva

[Abstracter's note: Complete translation]

Card 2/2

S/137/62/000/003/157/191
A052/A101

1.1800
AUTHORS: Baratashvili, I. B., Berezhiani, V. M.

TITLE: An investigation into the kinetics of the process of nitriding
metallic manganese

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 100-101, abstract
3I652 ("Sobshch. AN GruzSSR", 27, no. 2, 1961, 169-172, Russian)

TEXT: The kinetics of nitriding metallic Mn with molecular N has been investigated. The scheme of installation for studying the kinetics of nitriding is presented. With the increase of temperature the rate of nitriding increases sharply. For instance, to reach 4.4% N in the alloy at 850°C 180 minutes are needed whereas at 1,100°C less than 60 minutes. The nitriding of Mn at temperatures over 1,100°C leads to the sintering of Mn powder. As regards the problem of the effect of phase composition of the alloy on the process of N diffusion, the investigation has established a negative effect of multiphase structures on the kinetics of nitriding process. Optimum temperature conditions of nitriding by means of molecular N, which are recommended for working out the technology of nitrified Mn production, are temperatures of 900 - 1,000°C. There are

Card 1/2

DEREZHIANI, V.M.; MINAYEV, G.P.

Investigating the machinability of low-carbon steels of the type
Fe - Mn, Fe - Mn - Cr and Fe - Mn - Cr - N. Trudy Inst.
Met. AN Gruz. SSR 11:203-207 '61. (MIRA 14:10)
(Manganese steel)
(Chromium--Manganese steel)
(Metal cutting)

BEREZHIANI, V.M.; GRIKUROV, G.M.

Investigating the magnetic properties of low-carbon steels of
the type Fe-Mn, Fe-Mn-Cr and Fe-Mn-Cr-N. Trudy Inst. met.
AN Gruz. SSR 11:199-202 '61. (MIRA 14:10)
(Iron-manganese alloys--Magnetic properties)
(Chromium-manganese steel--Magnetic properties)

BEREZHTANI, V.M.

Methods of investigating the properties of alloys in
conditions of nonequilibrium. Trudy Inst. met. AN Gru.
SSR 11:191-197 '61. (MIRA 14:10)
(Alloys--Testing)
(Phase rule and equilibrium)

18.1130

39655
S/137/62/000/007/048/072
A057/A101

AUTHOR: Berezhiani, V. M.

TITLE: New high-manganese nitrous steels and the prospects of their use in industry

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 7, 1962, 55 - 56, abstract 71339 ("Tr. In-ta metallurgii. AN GruzSSR", 1961, 11, 77 - 81)

TEXT: A new type [AHT -1 (ANG-1)] of austenitic Cr-Mn-N-steel was developed with the following composition (in %): C < 0.12, Cr 12 - 14, Mn 16 - 20, and N 0.3 - 0.5. The steel has high mechanical properties and good cutting workability in the cast, as well as in the hardened state. This steel will have a wide use only as stainless steel, but not as acidproof steel. Also a non-magnetic Mn-N-steel was developed [AHT -2 (ANG-2)] with the composition (in %): C 0.08 - 0.12, Mn 16 - 18, N 0.2 - 0.3, which has better technological properties in comparison to ANG-1, but is recommended in cases when no corrosion resistance is necessary.

T. Rumyantseva

[Abstracter's note: Complete translation]

Card 1/1

BEREZHAINI, V.M.; BARATASHVILI, I.B.

Experiments in the production of nitrided maganese. Trudy Inst.
met. AN Gruz. SSR 11:69-76 '61. (MIRA 14:10)
(Manganese)
(Case hardening)

BEREZHIANI, V.M.

Effect of conjugate phases on the corrosion properties alloys.
Trudy Inst. met. AN Gruz. SSR 10:87-101. '60. (MIRA 13:12)
(Alloys--Corrosion) (Phase rule and equilibrium)

BERTZHIANI, V.M.

Mechanism of metal desulfuration by fluorine compounds. Trudy Inst.
met. AN Cruz. SSR 10:23-28 '60. (MIRA 13:12)
(Desulfuration) (Fluorine compounds)

BEREZHIANI, V. M. and BARTASHVILI, I. B.

Issledovaniy protsessov polucheniya vysokoznotistogo margantsa.

report submitted for the 5th Physical Chemical Conference on Steel Production,
Moscow, 30 Jun 1959.

Physicochemical Bases of (Cont.)

SOV/5411

3

Arc Furnace Induced by Blowing Oxygen Into the Metal	149
Shul'te, Yu. A., and M. I. Kurbatov. The Effect of Manufacturing Parameters on the Properties of High-Manganese Steel	159
Iodkovskiy, S. A., and N. N. Sashchikhin. New Method of Making Austenitic Steels With a Given Quantity of Ferrite	167
Suchil'nikov, S. I. Extracting Valuable [Ferroalloy] Elements During The Process of Their Production	178
Berezhiani, V. M., and V. B. Baratashvili. Investigating the Nitrous Manganese Production Processes	184
Zamoruyev, V. M. On the Distribution of Titanium Between the Metal and Slag	189

Card 8/18

Physicochemical Bases of (Cont.)

SOV/5411

PURPOSE: This collection of articles is intended for engineers and technicians of metallurgical and machine-building plants, senior students of schools of higher education, staff members of design bureaus and planning institutes, and scientific research workers.

COVERAGE: The collection contains reports presented at the fifth annual convention devoted to the review of the physicochemical bases of the steelmaking process. These reports deal with problems of the mechanism and kinetics of reactions taking place in the molten metal in steelmaking furnaces. The following are also discussed: problems involved in the production of alloyed steel, the structure of the ingot, the mechanism of solidification, and the converter steelmaking process. The articles contain conclusions drawn from the results of experimental studies, and are accompanied by references of which most are Soviet.

Card 2/18

BEREZHIANI, VM

PHASE I BOOK EXPLOITATION

SOV/5411

Konferentsiya po fiziko-khimicheskim osnovam proizvodstva stali. 5th,
Moscow, 1959.

Fiziko-khimicheskiye osnovy proizvodstva stali; trudy konferentsii
(Physicochemical Bases of Steel Making; Transactions of the
Fifth Conference on the Physicochemical Bases of Steelmaking)
Moscow, Metallurgizdat, 1961. 512 p. Errata slip inserted.
3,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni
A. A. Baykova.

Responsible Ed.: A. M. Samarin, Corresponding Member, Academy
of Sciences USSR; Ed. of Publishing House: Ya. D. Rozentsveyg.
Tech. Ed.: V. V. Mikhaylova.

Card 1/16

On the Aging of Aluminum Alloys

69358

SOV/123-59-19-78742

compounds. The idea set forth by the author is confirmed by the phenomenon of reversal, the point of which is, that the aged alloys, as a result of short-time heating up to certain temperatures, lose the qualities they acquired in the aging process and pass over into the initial hardened condition. In artificially aged alloys this phenomenon of reversal was not discovered. Thereby a number of investigators were led to the conclusion that there are principal differences between the processes of natural and artificial aging. The author found out that the process of reversal can also be observed in artificially aged alloys. During the reversal, the process of diffusion of phases is preceded by a considerable softening of the alloy, which can be explained by the tearing off of coherent phases from the hard mother solution. In order to check these assumptions, the diffusion processes of coherent and incoherent phases of aluminum alloys were investigated. As investigation objects, phases were selected, forming in Al-Cu and Al-Cu-Mg alloys during the annealing process. In these alloys the diffusion processes of coherent phases are accompanied by a preliminary softening of the alloy, while during the diffusion of incoherent phases a preliminary softening is not observed. The new physical-chemical theory of metallic alloy aging considers the processes of artificial and natural aging as different stages of the forming of chemical compounds. The problem of the nature of the reversal process is analyzed and a new treatment of this phenomenon, based on the advanced theory of aging, is given. 3 figures, 36 references.

Card 2/2

P.S.M.

X

69358

SOV/123-59-19-78742

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 19, p 126 (USSR)

18.12.10

AUTHOR: Berezhiani, V.M.

TITLE: On the Aging of Aluminum Alloys¹

PERIODICAL: Tr. In-ta metallurgii AS GruzSSR, 1958, Vol 9, pp 89 - 96

ABSTRACT: The author describes the evolution of views on the aging mechanism of aluminum alloys and criticizes the prevailing theories. Treating aging as a decomposition process would be justified if the initial super-saturated hard alloy contained molecules of the phase being formed during the aging. It is established, however, that the initial hard solution does not contain phase molecules that are being formed during the aging process. In aging alloys phases are formed which, depending on the temperature, are different in structure, composition and stability, and, if the temperature is increased, less stable phases are converted into more stable chemical compounds. Consequently, the processes taking place in metallic alloys during aging cannot be considered as a simple process of decomposition. These are complex processes of the forming of chemical compounds, or a combination of the processes of decomposition and formation of chemical

Card 1/2

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SOV/137-58-9-19844

On the Problem of the Nature of Aging of Metallic Alloys

similar to solvates, while the process of aging is similar to the process of solvation. Thus, the results obtained in the investigation of aging processes facilitate the development not only of the theory of phase transformations but of the theory of solutions as well.

1. Alloys--Aging
2. Alloys--Transformations

L.M.

Card 2/2

SOV/137-58-9-19844

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 249 (USSR)

AUTHOR: Berezhiani, V.M.

TITLE: ~~On the~~ Problem of the Nature of Aging of Metallic Alloys (K
voprosu o prirode stareniya metallicheskih splavov)

PERIODICAL: Tr. In-ta metalla i gorn. dela AN GruzSSR, 1957, Vol 8,
pp 71-75

ABSTRACT: The mechanism of aging of metallic alloys is examined. It is shown that in the case of Al-Cu and Al-Cu-Mg alloys the temperatures of complete recovery are fairly close to each other and are independent of the concentration of the alloy. The concept of aging as being a process of formation of a chemical compound (C) is confirmed. The temperature greatly influences the process of formation of chemical C's and effects the formation of intermediate C's within the alloy which differ in structure, composition, and stability. The intermediate C's are stable only within a definite interval of temperatures and tend to change into more stable C's as the temperature is increased. The intermetallic C's which are formed in metallic alloys are not stable chemically and are, in their nature, more

Card 1/2

SOV/137-58-8-18007

A New Method of Investigation of the Processes of Phase (cont.)

properties diagrams and the lines of isochronic cross section are constructed for the tempered and the aged states. The distance between the curves characterizes EA. This method was applied to the study of the aging process of an Al-Cu-Mg alloy with 3.74% Cu and 0.62% Mg. It is demonstrated that the phases that form during natural aging are not identical with the phases produced with artificial aging. In the latter case the process of their formation proceeds through the solution of the metastable phases in the solid solution and the separation of the already stable phases from the supersaturated solid solution formed.

1. Aluminum-copper-magnesium alloys--Transformations T. M.
2. Aluminum-copper-magnesium alloys--Temperature factors
3. Aluminum-copper-magnesium alloys--Aging

Card 2/2

BEREZHIANI, V. M.

SOV/137-58-8-18007

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 257 (USSR)

AUTHOR: Berezhiani, V. M.

TITLE: A New Method of Investigation of the Processes of Phase Transformations in Metallic Alloys (Novyy metod issledovaniya protsessov fazovykh prevrashcheniy v metallicheskih splavakh)

PERIODICAL: Tr. In-ta metalla i gorn. dela. AN GruzSSR, 1957, Vol 8, pp 61-69

ABSTRACT: A complex method is proposed for the study of phase transformations in aging Al alloys, consisting of the construction of temperature-properties diagrams, with isochronic cross-section lines entered on them, and of the determination of the magnitude of the effect of aging (EA). EA is characterized by the difference in the properties of the alloy in the tempered and in the aged states and permits the control of the state of the solid solution in the course of the entire time of transformation. It is known that EA decreases if the formation of a new phase occurs in the process of aging and, by contrast, that it increases upon the dissolution of the phases already existing in the alloy. For the determination of EA, the temperature-

Card 1/2

KAKABADZE, V.M.; NIKOLAYSHVILI, Z.G.; MSHVENIYERADZE, N.G.; BERFZHIANI, L.B.

Physicochemical analysis of the products of interaction between magnesium nitrate and urea. Dokl. AN SSSR 161 no.5:1156-1157 Ap '65. (MIRA 18:5)

1. Gruzinskiy politekhnicheskiy institut im. V.I.Lenina. Submitted October 14, 1964.

BEREZHIANI, L.B.

Nature of the molecular compound in the system stearic acid
palmitic acid. Soob. AN Gruz. SSR 31 no.1:45-52 J1 '63.

(MIRA 17:7)

BEREZHIANI, D.I.

Complex treatment of thyrotoxicoses. Trudy Inst.eksp.i klin.khir.
i gemat. AN Gruz.SSR 10:169-175 '62. (MIRA 1612)
(THYROID GLAND--DISEASES)

L 10406-67

ACC NR: AT6033032

where Φ is the scalar potential of the magnetic field; H_0 is the magnitude of the longitudinal field; H_p is the amplitude of the p-th harmonic of the helical field; r, Φ, z are coordinates. There follows a mathematical development for the case of a helical field with $n = 2$. The article gives detailed mechanical drawings of several of the main features of the equipment used, including a cross section view of the apparatus, details of the helical winding, and a block diagram of the feeding system. A further figure shows an oscillogram of the current flowing through the winding. The experimental data confirm the validity of the approach to the problem. "In conclusion the authors express their sincere thanks to M. S. Rabinovich for his continuing interest in the work and for his helpful discussions, as well as to Ye. P. Aleksandrov, V. I. Dudin, V. I. Kryukov, and V. P. Solov'yev who took part in the construction of the equipment, and to G. I. Os'kina who took part in the construction of the winding system." Orig. art. has: 5 formulas, 7 figures, and 1 table.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 014/ OTH REF: 003

Card 2/2 ⁶⁷

L 10406-67 EWT(1) IJP(c) AT

ACC NR: AT6033032

SOURCE CODE: UR/2504/66/032/000/0020/0028³³AUTHOR: Berezhetskiy, M. S.; Grebenshchikov, S. Ye.; Zverev, N. M.; Chpigel', I. S.³⁴

ORG: none

TITLE: Toroidal magnetic trap of the stellarator type with external injection of the plasma ✓

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 32, 1966. Fizika plazmy (Plasma physics), 20-28

TOPIC TAGS: magnetic trap, plasma injection

ABSTRACT: The vacuum chamber of the magnetic trap under consideration was in the form of a torus with a diameter of 120 cm and a cross section diameter of 10 cm. A magnetic field of the stellarator type (without taking the toroidal character into account) has the following form:

$$\Phi = H_0 s + \frac{1}{a} \sum_{p=0}^{\infty} H_p I_p(p a r) \sin p(\varphi - \alpha s), \quad (1)$$

$$p = n(2k + 1),$$

Card 1/2

L 13459-66

ACC NR: AP6002439

on an electrode that filled the entire cross section of the chamber. By varying the position of the gun the area was mapped out from which substantially all the injected electrons reached the collector. 2) A pulse of 20 eV electrons was injected along a line of force and the lifetime of the electrons in the chamber was determined with an electrostatic induction probe. Lifetimes of 200-300 μ sec, corresponding to 150-200 revolutions, were usual. 3) An electron pulse was injected and the corresponding magnetic surface was mapped out with a small movable electrostatic induction probe. By measuring the time between injection and detection of the pulse, the number of revolutions (up to about 20) corresponding to a given point on the magnetic surface could be determined. The presence of closed magnetic surfaces was established for values of h/H less than 0.8. The magnetic surfaces were highly distorted or destroyed when h/H was increased beyond 0.8; the reason for this is not understood. Low order resonant perturbations were detected. These were evinced by a sharp decrease in the lifetime of the injected electron pulse at the resonant values of h/H and by break-up of the magnetic surface into two or three pieces, depending on the order of the resonance. The resonances were observed at the predicted values of h/H . The effect of a transverse magnetic field on the magnetic surfaces was investigated. This was found to shift the positions of the magnetic surfaces without significantly distorting them, in accord with theoretical calculations. The authors thank N.M. Zverev and G.S. Voronov for assistance with the experiments, and M.S. Rabinovich for his interest and for valuable discussions. Orig. art. has: 1 formula and 8 figures.

SUB CODE: 30

SUBM DATE: 16Apr65

ORIG. REF: 016

OTH REF: 004

Case 2/2

OR

L 13459-66 INT(1) IJP(c)

ACC NO. AP6002439

SOURCE CODE: UR/0057/65/035/012/2167/2175

AUTHOR: Berenhetakiy, M.B.; Grebenshchikov, S. Ye.; Popryadukhin, A.P.

ORG: Physics Institute im. P.N. Lebedev, Moscow (Fizicheskii institut)

58
65
B

TITLE: Investigation of the structure of magnetic surfaces in a stellarator with a double helical field

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 12, 1965, 2167-2175

TOPIC TAGS: helical magnetic field, ~~plasma confinement~~, magnetic trap, magnetic field measurement, *electron beam, magnetic field*

ABSTRACT: The magnetic surfaces of the stellarator field in the L-1 toroidal magnetic trap have been explored with electron beams. The L-1 machine has been described elsewhere by G.M. Batanov et al. (DAN SSSR, 160, 1293, 1965). The stainless steel chamber was a torus with large and small radii of 60 cm and 5 cm. The longitudinal magnetic field had a strength of 3 kOe during the measurements and its corrugation on the axis was about 1.5%. The helical magnetic field was produced by four helical conductors of 7 turns each, neighboring conductors carrying currents in opposite directions. The ratio h/H of the fundamental harmonic h of the helical field to the longitudinal field H could be varied from 0.3 to 0.7. Three different techniques were employed to explore the magnetic surfaces: 1) A beam of 60-100 eV electrons was directed along a line of force at a selected point in the chamber and was collected after a single revolution

Card 1/2

UDC: 538.122

DISCUSSION OF RESULTS

and the results of the study and a $C = 0.09$. The external injection of the plasma was made at the same time as the operating simultaneously for the first time. The results of the study indicate that the time for attaining a steady state is about 100 milliseconds and the distance corresponds to $1/10$ of the total length of the tube and is at the same time the velocity. Comparing these results with the results of the study of a thermal field, the results indicate that the time for attaining a steady state is about 100 milliseconds and the distance corresponds to $1/10$ of the total length of the tube.

REFERENCES

1. J. H. D. J. H. D.

2. J. H. D. J. H. D.

3. J. H. D. J. H. D.

4. J. H. D. J. H. D.

5. J. H. D. J. H. D.

Abstract

3/3 3/43/100 00/100/2

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TO THE PRESIDENT OF THE UNITED STATES OF AMERICA	FROM THE SECRETARY OF THE ARMY	DATE	FILE NO.	FILED
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DATE: 11/13/2015 TIME: 10:00 AM PAGE: 1 OF 1

[illegible]

of the ^{13}C NMR spectra of the two polymers are shown in Figure 1. The chemical shifts of the peaks in the aromatic region of the spectra are in good agreement with those reported for the corresponding monomers.¹⁰ The chemical shifts of the peaks in the aliphatic region of the spectra are also in good agreement with those reported for the corresponding monomers.¹⁰ The chemical shifts of the peaks in the carbonyl region of the spectra are also in good agreement with those reported for the corresponding monomers.¹⁰ The chemical shifts of the peaks in the methoxy region of the spectra are also in good agreement with those reported for the corresponding monomers.¹⁰ The chemical shifts of the peaks in the methylene region of the spectra are also in good agreement with those reported for the corresponding monomers.¹⁰ The chemical shifts of the peaks in the methyl region of the spectra are also in good agreement with those reported for the corresponding monomers.¹⁰ The chemical shifts of the peaks in the quaternary carbon region of the spectra are also in good agreement with those reported for the corresponding monomers.¹⁰ The chemical shifts of the peaks in the oxygen region of the spectra are also in good agreement with those reported for the corresponding monomers.¹⁰ The chemical shifts of the peaks in the nitrogen region of the spectra are also in good agreement with those reported for the corresponding monomers.¹⁰ The chemical shifts of the peaks in the sulfur region of the spectra are also in good agreement with those reported for the corresponding monomers.¹⁰ The chemical shifts of the peaks in the phosphorus region of the spectra are also in good agreement with those reported for the corresponding monomers.¹⁰ The chemical shifts of the peaks in the halogen region of the spectra are also in good agreement with those reported for the corresponding monomers.¹⁰ The chemical shifts of the peaks in the other region of the spectra are also in good agreement with those reported for the corresponding monomers.¹⁰

Ev. ch. BERERZHAY, A. A.

*B₁-g Glass, Ceramics,
Refractories.*

Production of glass bricks for roofs of electric (steel) furnaces for Upper Silesia region: A. A. Bererzhay and A. G. Prokopenko (Ognesopoy, 1946, 25, 181; 256; same, *Zh. tekhn.*, 1949, 32A).—Crushed quartz (fraction: the Karskaya mountain (SiO₂, 94-91, Al₂O₃, 1-8, Fe₂O₃, 1-2, CaO 0-4, and MgO 0-3% ; has on ignition up to 1-1%) is ground, sieved, mixed with sulphite lye to give green strength, and fired in a kiln. The heating and cooling schedule is detailed. The best bricks (SiO₂, 90-92-93-9; Al₂O₃, 1-1-2, Fe₂O₃, 0-75-1-1, CaO 2-4-3, and MgO 0-3%) have a refractoriness of 1710-1720°, a porosity of 20-25%, and a δ of 2-34-3-52. A table shows the no. of bricks possible when using the bricks in the roof of electric steel furnaces of different sizes.

R. B. CLARK.

BEREZHANSKAYA, T.S. [Berezhans'ka, T.S.], kand.med.nauk; TANTSYURA, K.M.,
dotsent

Some data on aplastic anemia in childhood. Ped., akush. i gin. 22
no.3:21-24 '60. (MIRA 14:4)

1. Kafedra gospiatal'noy pediatrii (zav. - chlen-korrespondent AMN
SSSR prof. O.M.Khokhol) Kiyevskogo ordena Trudovogo Krasnogo Znameni
meditsinskogo instituta im. akademika A.A.Bogomol'tsa (direktor -
dotsent I.P.Elekseyenko).
(ANEMIA)

ZHUGAN, T.Yu. [Zhuhan, T.IU.]; BEREZHANSKAYA, T.S. [Berezhans'ka, T.S.]

Case of abnormal location of the stomach in the thoracic cavity. Ped.,
akush. i gin. 19 no.4:30-32 '57. (MIRA 13:1)

1. Rentgenodiagnosticheskoye otdeleniye (rukovoditel' - kand.med.nauk
V.Yu. Arungasiyev) Kiyevskogo rentgeno-radiologicheskogo instituta
(direktor - prof. I.T. Shevchenko) i klinika gosital'noy pediatrii
(zav. - prof. O.M. Khokhol) Kiyevskogo ordena Trudovogo Krasnogo Znameni
meditsinskogo instituta im. akad. A.A. Bogomol'tsa (direktro - prof.
Ye.F. Shamray).

(STOMACH--ABNORMALITIES AND DEFORMITIES)

BEREZHANSKAYA, T.S. [Berezhans'ka, T.S.]; PIL'MAN, N.I., kand.med.nauk

Significance of an examination of the fundus oculi in children with
miliary tuberculosis or tuberculous meningitis. Ped., akush. i gin.
19 no.2:29-31 '57. (MIRA 13:1)

1. Kafedra gospiatal'noy pediatrii (zav. - chlen-korrespondent AMN SSSR
O.M. Khokhol) Kiyevskogo ordena Trudovogo Krasnogo Znameni meditsinsko-
go instituta im. akad. A.A. Bogomol'tsa (dir. - prof. Ye.F. Shamray)
na baze bol'nitsy im. M.I. Kalinina (glavnyy vrach - V.O. Udintseva).
(EYE-EXAMINATION) (TUBERCULOSIS)

BEREZHANSKAYA, T. S. Cand Med Sci -- (diss) "The ^{Course} ~~Theory~~ of Military Tuberculosis in Children During Treatment With Antibacterial Preparations." Kiev, 1957. 18 pp 20 cm. (Kiev Order of Labor Red Banner Medical Inst im Academician A. A. Bogomolets), 200 copies (KL, 28-57, 111)

PANASYUK, V.V. (L'vov); BEREZHITSKIY, L.T. (L'vov); KOVCHIK, S.Ye. (L'vov)

Propagation of an arbitrarily oriented rectilinear crack during
the stretching of a plate. Prikl. mekh. 1 no.2:48-55 '65.
(MIRA 18:6)

1. Fiziko-mekhanicheskiy institut AN UkrSSR.

BEREZHINSKIY, L.I.; LISITSA, M.P.

Testing the quality of plane optical surfaces. Zhur. prikl. spektr.
2 no.5:409-414 My '65. (MIRA 18:7)

BEREZHANSKIY, Kost' Petrovich [Berezhasn'kyi, K.P.]; DOROSHENKO, M., red.;
NEDOVIZ, S., tekhn. red.

[New horizons] Novi horyzonty. L'viv, Kryzhkogo-zhurnal'ne vyd-
vo, 1960. 41 p. (MIRA 14:12)
(Ukraine--Collective farms)

COMMON ELEMENTS		COMMON RARE EARTH METALS	
1	2	3	4
Ca			
<p>BEREZHANOV, N. M.</p> <p>Origin of hyperketonemia in diabetes. S. G. Genes and N. M. Berezhanova (Ukrain. Central Inst. Endocrinol., Kharkov). <i>Byull. Eksp. Biol. Med.</i> 11, 290-302(1941).—The hyperketonemia occurs not because of decreased oxidation of ketone bodies in the muscle, but because of increased generation in the liver. Actually oxidation of the ketone bodies in muscle occurs at a higher than normal rate, but this lags behind the output of the liver. From both healthy and depancreatized angiotomized dogs, simultaneous blood samples were taken of the in- and out-flowing blood from the liver and hind extremities. The av. values (expressed as β-hydroxybutyric acid) were: liver elimination 1.7 mg. % in healthy and 4.0 mg. % in diabetic dogs; muscle retention 0.7 mg. % in healthy and 1.0 mg. % in diabetic dogs. In a few instances this trend was unexplainedly reversed.</p> <p>G. M. Kosolapoff</p>			
<p>ASM. SLA METALLURGICAL LITERATURE CLASSIFICATION</p>			

PEREZZHANOVA, K. T.

Sesame

White-seeded sesame M-7. Sel. 1 sem. 20, No. 3, 1953.

Monthly List of Russian Accessions, Library of Congress
June 1953. UNCL.

γ -ray coloration of quartz glass

S/081/63/000/002/044/088
B156/B144

of the AB is proposed on the basis of the theory for the development of coloration centres and the quantum theory for the state of electrons in solid bodies. [Abstracter's note: Complete translation.]

Card 3/3

γ -ray coloration of quartz glass

S/081/63/000/002/044/088
B156/B144

230-110 m μ range. The spectral characteristics are given. The quartz glass was melted in a moderately oxidizing atmosphere, in air, and in the flame from a torch burning on natural gas and oxygen. The effects of the conditions under which the quartz glass was produced on the extent to which irradiation colored it were also investigated with specimens melted in a oxy-hydrogen flame and in vacuum-press furnaces. It was established that the result of impurities being present in quartz is that irradiation colors it. The intensity of coloring and the locations of the absorption bands (AB) depend on the type of impurity and its concentration. Increase in the contents of Al, Ge, Fe or Ta oxides brings about the formation of AB with a maximum of ~ 400 m μ . It is suggested that, by analogy with crystalline quartz, the absorption in this range is caused by centres of coloration which form when the Si 4^+ in the framework of the glass is replaced by Fe 3^+ , Al 3^+ , Ge 4^+ , etc. The characteristic AB formed when quartz glass is irradiated are in the 300 and 550 m μ range. AB in the 300 m μ range form in every case. The formation of AB in the 550 m μ range is promoted if the melting conditions are of a reducing nature. It is suggested that the AB in the 300 m μ range are due to the presence of unbound oxygen atoms, and that the AB in the 550 m μ range are due to vacancies in unbound oxygen atoms. A hypothesis regarding the formation

Card 2/3

S/081/63/000/C02/044/088
B156/B144

AUTHORS: Botvinkin, O. K., Berezhnaya, I. N.

TITLE: γ -ray coloration of quartz glass

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1963, 375, abstract
2M68 (Steklo. Byul. Gos. n.-i. in-ta stekla, no. 2 (111),
1961, 15-20)

TEXT: The effects of various impurities in quartz on its coloring under radiation were investigated, and the effects of the conditions under which quartz glass is melted were determined. The irradiation was carried out in a K-20000 (K-20000) apparatus for radiation chemistry research. The integral dose used was $5.6 \cdot 10^6$ r. The integral dose was increased to $7.5 \cdot 10^8$ r in the case of specimens which the first dose did not color. A number of specimens were irradiated in an atomic reactor (integral dose $2 \cdot 10^9$ r). The effects of the irradiation were assessed from the changes in the spectral characteristics of the specimens investigated, determined with an SF-4 (SF-4) spectrophotometer in the

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SHTIL'MAN, Ye.I., kand. tekhn. nauk; BEREZETSKIY, V.I., inzh.; SHAMRAY,
V.S., inzh.

Electrothermal stressing of lateral reinforcements in bridges.
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(Bridges, Concrete) (Precast concrete construction)